

RECEIVED

47CO

MAY 30 2002

TECH CENTER 1600/2900
RECEIVED

MAY 29 2002

OICE

TECH CENTER 1600/2900

ENTERED

RAW SEQUENCE LISTING

DATE: 05/01/2002

PATENT APPLICATION: US/09/843,159A

TIME: 09:36:29

#10

Input Set : A:\A68292-2.ST25.txt

Output Set: N:\CRF3\05012002\I843159A.raw

3 <110> APPLICANT: Luo, Yin
 4 Chan, Evan
 5 Xu, Xiang
 6 Huang, Betty
 8 <120> TITLE OF INVENTION: Tankyrase H, Compositions Involved in the Cell Cycle and
 Methods of Use

10 <130> FILE REFERENCE: A-68292-2/RMS/DHR
 12 <140> CURRENT APPLICATION NUMBER: US 09/843,159A
 13 <141> CURRENT FILING DATE: 2001-04-25
 15 <150> PRIOR APPLICATION NUMBER: US 09/696,668
 16 <151> PRIOR FILING DATE: 2000-10-25
 18 <150> PRIOR APPLICATION NUMBER: US 09/427,154
 19 <151> PRIOR FILING DATE: 1999-10-25
 21 <160> NUMBER OF SEQ ID NOS: 19
 23 <170> SOFTWARE: PatentIn version 3.1
 25 <210> SEQ ID NO: 1
 26 <211> LENGTH: 3797
 27 <212> TYPE: DNA
 28 <213> ORGANISM: Homo sapiens
 30 <400> SEQUENCE: 1

31	ctttgaagac	actggatttc	atacttttgc	ctgggggttat	ctctctgtgt	ctcactacat	60
33	agacaaatat	tagctgtgag	cagatctttt	ttgttgctt	cttgtagtcc	cccagtttag	120
35	cagaaacatt	ctgtgagata	gatgtgggaa	aggaattcta	gcaagagttt	tgtcactgta	180
37	tcataagggt	gtgatttaca	tatttaagtt	ttatactttg	aacatctgaa	aatgtataca	240
39	tactaaatat	gcagaactct	attgtagagt	gagaaacatt	tgaactttga	gctttcagtc	300
41	acttattttg	tattctttct	ttgaggttag	cagtagtacc	acccaaggca	ctgcttaggt	360
43	accactgctg	cttagtgagg	agtccctctg	gctttatcat	taaggttttg	ggcggaaaga	420
45	cgtagttgaa	tatttgcttc	agaatggtgc	aagtgtccaa	gcacgtgatg	atgggggcct	480
47	tattctctct	cataatgcat	gctcttttgg	tcagtctgaa	gtagtcaatc	tccttttgcg	540
49	acatgggtgca	gaccccaatg	ctcgagataa	ttggaattat	actcctctcc	atgaagctgc	600
51	aattaaagga	aagattgatg	tttgcatgtg	gctgttacag	catggagctg	agccaacccat	660
53	ccgaaataca	gatggaagga	cagcattgga	tttagcagat	ccatctgcca	aagcagtgtc	720
55	tactggtgaa	tataagaaa	atgaactctt	agaaagtgcc	aggagtggca	atgaagaaaa	780
57	aatgatggct	ctactcacac	cattaaatgt	caactgccac	gcaagtgatg	gcagaaagtc	840
59	aactccatta	catttggcag	caggatataa	cagagtaaag	attgtacagc	tgttactgca	900
61	acatggagct	gatgtccatg	ctaaagataa	agggtgatctg	gtaccattac	acaatgctg	960
63	ttcttatggt	cattatgaag	taactgaact	tttggccaag	catgggtgcct	gtgtaaattgc	1020
65	aatggacttg	tggcaattca	ctcctcttca	tgaggcagct	tctaagaaca	gggttgaaat	1080
67	atgttctctt	ctcttaagtt	atggtgcaga	cccaacactg	ctcaattgtc	acaataaaaag	1140
69	tgcttatgac	ttggctccca	caccacagtt	aaaagaaaaga	ttagcatatg	aatttaaagg	1200
71	ccactcgttg	ctgcaagctg	cacgagaagc	tgatgttact	cgaatcaaaa	aacatctctc	1260
73	tctggaaatg	gtgaatttca	agcatcctca	aacacatgaa	acagcattgc	attgtgctgc	1320
75	tgcactctca	tatcccaaaa	gaaagcaaat	atgtgaactg	ttgctaagaa	aaggagcaaa	1380
77	catcaatgaa	aagactaaag	aattcttgac	tcctctgcac	gtggcatctg	agaaagctca	1440

RECEIVED
 MAY 28 2002
 OFFICE OF PETITIONS

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/843,159A

DATE: 05/01/2002

TIME: 09:36:29

Input Set : A:\A68292-2.ST25.txt

Output Set: N:\CRF3\05012002\I843159A.raw

```

79 taatgatggt gttgaagtag tggatgaaaca tgaagcaaag gttaatgctc tggataatct 1500
81 tggtcagact tctctacaca gagctgcata ttgtgggtcat ctacaaacct gccgcctact 1560
83 cctgagctat ggggtgtgatc ctaacattat atcccttcag ggctttactg ctttacagat 1620
85 gggaaatgaa aatgtacagc aactcctcca agaggggtatc tcattaggta attcagaggc 1680
87 agacagacaa ttgctggaag ctgcaaaggc tggagatgtc gaaactgtaa aaaaactgtg 1740
89 tactgttcag agtgtcaact gcagagacat tgaagggcgt cagtctacac cacttcattt 1800
91 tgcagctggg tataacagag tgtccgtggg ggaatatctg ctacagcatg gagctgatgt 1860
93 gcatgctaaa gataaaggag gccttgtacc tttgcacaat gcatgttctt atggacatta 1920
95 tgaagttgca gaacttcttg ttaaaccatgg agcagtagtt aatgtagctg atttatggaa 1980
97 atttacacct ttacatgaag cagcagcaaa agggaaatat gaaatttgca aacttctgct 2040
99 ccagcatggt gcagacccta ccaaaaaaaa cagggatgga aatactcctt tggatcttgt 2100
101 taaagatgga gatacagata ttcaagatct gcttagggga gatgcagctt tgctagatgc 2160
103 tgccaagaag ggttgttttag ccagagtgaag gaagttgtct tctcctgata atgtaaattg 2220
105 ccgcgatacc caaggcagac attcaacacc ttacatttta gcagctgggt ataataattt 2280
107 agaagttgca gagtatttgt tacaacacgg agctgatgtg aatgccccag acaaaggagg 2340
109 acttattcct ttacataatg cagcatctta cgggcatgta gatgtagcag ctctactaat 2400
111 aaagtataat gcatgtgtca atgccacgga caaatgggct ttcacacctt tgcacgaagc 2460
113 agcccaaaag ggacgaacac agctttgtgc tttgttgcta gcccatggag ctgacccgac 2520
115 tcttaaaaat caggaaggac aaacaccttt agatttagtt tcagcggatg atgtcagcgc 2580
117 tcttctgaca gcagccatgc ccccatctgc tctgccctct tgttacaagc ctcaagtgtc 2640
119 caatgggtgtg agaagcccag gagccactgc agatgctctc tcttcagggt catctagccc 2700
121 atcaagcctt tctgcagcca gcagtcttga caacttatct gggagttttt cagaactgtc 2760
123 ttcagtagtt agttcaagtg gaacagaggg tgcttccagt ttggagaaaa aggaggttcc 2820
125 aggagtagat ttagcataa ctcaattcgt aaggaatctt ggacttgagc acctaatgga 2880
127 tatatttgag agagaacaga tcacttttga tgtattagtt gagatggggc acaaggagct 2940
129 gaaggagatt ggaatcaatg cttatggaca taggcacaaa ctaattaaag gagtgcgagag 3000
131 acttatctcc ggacaacaag gtcttaacct atatttaact ttgaacacct ctggtagtgg 3060
133 acaattctt atagatctgt ctccctgatg taaagagttt cagtctgtgg aggaagagat 3120
135 gcaaagtaca gttcgagagc acagagatgg aggtcatgca ggtggaatct tcaacagata 3180
137 caatattctc aagattcaga aggtttgtaa caagaaacta tgggaaagat aactcaccg 3240
139 gagaaaagaa gtttctgaag aaaaccacaa ccatgccaat gaacgaatgc tatttcatgg 3300
141 gtctcctttt gtgaatgcaa ttatccacaa aggccttgat gaaaggcatg cgtacatagg 3360
143 tggtagtgtt ggagctggca tttattttgc tgaaaactct tccaaaagca atcaatatgt 3420
145 atatggaatt ggaggaggta ctgggtgtcc agttcacaaa gacagatctt gttacatttg 3480
147 ccacaggcag ctgctctttt gccgggtaac cttgggaaag tctttcctgc agttcagtgc 3540
149 aatgaaaatg gcacattctc ctccagggtc tcaactcagtc actggtaggc ccagtgtaaa 3600
151 tggcctagca ttagctgaat atgttattta cagaggagaa caggcttctc ctgagtattt 3660
153 aattacttac cagattatga ggcctgaagg tatggtcgat ggataaatag ttattttaag 3720
155 aaactaatc cactgaacct aaaatcatca aagcagcagt ggcctctacg ttttactcct 3780
157 ttgctgaaaa aaaaaaa 3797
160 <210> SEQ ID NO: 2
161 <211> LENGTH: 3816
162 <212> TYPE: DNA
163 <213> ORGANISM: Homo sapiens
165 <400> SEQUENCE: 2
166 cgcgctgctc cgcgcgcgcg ggggcagccg gggggcaggg agcccagcga ggggcgcgcg 60
168 tgggcgcgcg ccattgggact gcgcgcgcat cggtgacagc agggagccaa gcggcccgcg 120
170 cctgagcgcg gtcttctccg ggggcctcgc cctcctgct cgcggggccg gggtcctcgc 180
172 tccggttgct ggcgctgttg ctggctgtgg cgcgcgcag gatcatgtcg ggtcgcgcgt 240

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/843,159A

DATE: 05/01/2002

TIME: 09:36:29

Input Set : A:\A68292-2.ST25.txt

Output Set: N:\CRF3\05012002\I843159A.raw

174	gcgcgcgcgcgc	gggagcgcgc	tgcgcgcgcgc	ccgcgcgcgc	ggcgcgcgcgc	300
176	gagagctggt	cgaggcgtgc	cgcaacgggg	acgtggaacg	agtcaagagg	360
178	ctgagaaggt	gaacagccgc	gacacggcgc	gcaggaaatc	caccccgctg	420
180	caggttttgg	gcggaaagac	gtagttgaat	atttgcttca	gaatggtgca	480
182	cacgtgatga	tgggggcctt	attcctcttc	ataatgcattg	ctcttttggg	540
184	tagtcaatct	ccttttgcca	catggtgcag	accccaatgc	tcgagataat	600
186	ctcctctcca	tgaagctgca	attaaaggaa	agattgatgt	ttgcattgtg	660
188	atggagctga	gccaaccatc	cgaaatacag	atggaaggac	agcattggat	720
190	catctgccaa	agcagtgcct	actggtgaat	ataagaaaga	tgaactctta	780
192	ggagtggcaa	tgaagaaaaa	atgatggctc	tactcacacc	attaaatgtc	840
194	caagtgatgg	cagaaagtca	actccattac	atttggcagc	aggatataac	900
196	ttgtacagct	gttactgcaa	catggagctg	atgtccatgc	taaagataaa	960
198	taccattaca	caatgcctgt	tcttatggtc	attatgaagt	aactgaactt	1020
200	atggtgcctg	tgtaaatgca	atggacttgt	ggcaattcac	tctcttctat	1080
202	ctaagaacag	ggttgaagta	tgttctcttc	tcttaagtta	tgggtgcagac	1140
204	tcaattgtca	caataaaaagt	gctatagact	tggctccac	accacagtta	1200
206	tagcatatga	atttaaaggc	cactcggtgc	tgcaagctgc	acgagaagct	1260
208	gaatcaaaaa	acatctctct	ctggaaatgg	tgaatttcaa	gcctcctcaa	1320
210	cagcattgca	ttgtgctgct	gcctctccat	atcccaaaaag	aaagcaaata	1380
212	tgctaagaaa	aggagcaaac	atcaatgaaa	agactaaaga	attcttgact	1440
214	tggcatctga	gaaagctcat	aatgatgttg	ttgaagtagt	ggtgaaacat	1500
216	ttaatgctct	ggataatctt	ggtcagactt	ctctacacag	agctgcatat	1560
218	tacaaacctg	ccgcctactc	ctgagctatg	ggtgtgatcc	taacattata	1620
220	gctttactgc	tttacagatg	ggaaatgaaa	atgtacagca	actcctccaa	1680
222	cattaggtaa	ttcagaggca	gacagacaat	tgctggaagc	tgcaaaggct	1740
224	aaactgtaaa	aaaactgtgt	actgttcaga	gtgtcaactg	cagagacatt	1800
226	agtctacacc	acttcatttt	gcagctgggt	ataacagagt	gtccgtgggtg	1860
228	tacagcatgg	agctgatgtg	catgctaaag	ataaaggagg	ccttgtacct	1920
230	catgttctta	tggacattat	gaagttgcag	aacttcttgt	taaacatgga	1980
232	atgtagctga	tttatggaaa	tttacacctt	tacatgaagc	agcagcaaaa	2040
234	aaatttgcaa	acttctgctc	cagcatggtg	cagaccctac	caaaaaaac	2100
236	atactccttt	ggatcttggt	aaagatggag	atacagatat	tcaagatctg	2160
238	atgcagcttt	gctagatgct	gccaagaagg	gttgttttagc	cagagtgaag	2220
240	ctcctgataa	tgtaaaattgc	cgcgataccc	aaggcagaca	ttcaaacctt	2280
242	cagctggtta	taataattta	gaagttgcag	agtatttgtt	acaacacgga	2340
244	atgcccaaga	caaaggagga	cttattcctt	tacataatgc	agcatcttac	2400
246	atgtagcagc	tctactaata	aagtataatg	catgtgtcaa	tgccacggac	2460
248	tcacaccttt	gcacgaagca	gcccaaaagg	gacgaacaca	gctttgtgct	2520
250	cccatggagc	tgacccgact	cttaaaaatc	aggaaggaca	aacaccttta	2580
252	cagcggatga	tgtcagcgct	cttctgacag	cagccatgcc	cccatctgct	2640
254	gttacaagcc	tcaagtgtct	aatggtgtga	gaagcccagg	agccactgca	2700
256	cttcaggtcc	atctagccca	tcaagccttt	ctgcagccag	cagtcttgac	2760
258	ggagtttttc	agaactgtct	tcagtagtta	gttcaagtgg	aacagagggt	2820
260	tggagaaaaa	ggaggttcca	ggagtagatt	ttagcataac	tcaattcgta	2880
262	gacttgagca	cctaattgat	atatttgaga	gagaacagat	cactttggat	2940
264	agatggggca	caaggagctg	aaggagattg	gaatcaatgc	ttatggacat	3000
266	taattaaagg	agtcgagaga	cttatctccg	gacaacaagg	tcttaaccca	3060
268	tgaacacctc	tggtagtgga	acaattctta	tagatctgtc	tcctgatgat	3120
270	agtctgtgga	ggaagagatg	caaagtacag	ttcgagagca	cagagatgga	3180

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/843,159A

DATE: 05/01/2002

TIME: 09:36:29

Input Set : A:\A68292-2.ST25.txt

Output Set: N:\CRF3\05012002\I843159A.raw

```

272 gtggaatctt caacagatac aatattctca agattcagaa ggtttgtaac aagaaactat 3240
274 gggaaagata cactcaccgg agaaaagaag tttctgaaga aaaccacaac catgccaatg 3300
276 aacgaatgct atttcatggg tctccttttg tgaatgcaat tatccacaaa ggctttgatg 3360
278 aaaggcatgc gtacataggt ggtatgtttg gagctggcat ttattttgct gaaaactctt 3420
280 ccaaaagcaa tcaatatgta tatggaattg gaggaggtac tgggtgtcca gttcacaag 3480
282 acagatcttg ttacatttgc cacaggcagc tgctcttttg ccgggtaacc ttgggaaagt 3540
284 ctttcctgca gttcagtgc atgaaaatgg cacattctcc tccagggtcat cactcagtca 3600
286 ctggtaggcc cagtgtaaat ggcctagcat tagctgaata tggtatttac agaggagaac 3660
288 aggcttatcc tgagtattta attacttacc agattatgag gcctgaagggt atggctcgatg 3720
290 gataaatagt tattttaaga aactaattcc actgaaccta aaatcatcaa agcagcagtg 3780
292 gcctctacgt tttactcctt tgctgaaaaa aaaaaa 3816
295 <210> SEQ ID NO: 3
296 <211> LENGTH: 1065
297 <212> TYPE: PRT
298 <213> ORGANISM: Homo sapiens
300 <400> SEQUENCE: 3
302 Gly Phe Gly Arg Lys Asp Val Val Glu Tyr Leu Leu Gln Asn Gly Ala
303 1 5 10 15
306 Ser Val Gln Ala Arg Asp Asp Gly Gly Leu Ile Pro Leu His Asn Ala
307 20 25 30
310 Cys Ser Phe Gly His Ala Glu Val Val Asn Leu Leu Leu Arg His Gly
311 35 40 45
314 Ala Asp Pro Asn Ala Arg Asp Asn Trp Asn Tyr Thr Pro Leu His Glu
315 50 55 60
318 Ala Ala Ile Lys Gly Lys Ile Asp Val Cys Ile Val Leu Leu Gln His
319 65 70 75 80
322 Gly Ala Glu Pro Thr Ile Arg Asn Thr Asp Gly Arg Thr Ala Leu Asp
323 85 90 95
326 Leu Ala Asp Pro Ser Ala Lys Ala Val Leu Thr Gly Glu Tyr Lys Lys
327 100 105 110
330 Asp Glu Leu Leu Glu Ser Ala Arg Ser Gly Asn Glu Glu Lys Met Met
331 115 120 125
334 Ala Leu Leu Thr Pro Leu Asn Val Asn Cys His Ala Ser Asp Gly Arg
335 130 135 140
338 Lys Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn Arg Val Lys Ile
339 145 150 155 160
342 Val Gln Leu Leu Leu Gln His Gly Ala Asp Val His Ala Lys Asp Lys
343 165 170 175
346 Gly Asp Leu Val Pro Leu His Asn Ala Cys Ser Tyr Gly His Tyr Glu
347 180 185 190
350 Val Thr Glu Leu Leu Val Lys His Gly Ala Cys Val Asn Ala Met Asp
351 195 200 205
354 Leu Trp Gln Phe Thr Pro Leu His Glu Ala Ala Ser Lys Asn Arg Val
355 210 215 220
358 Glu Val Cys Ser Leu Leu Leu Ser Tyr Gly Ala Asp Pro Thr Leu Leu
359 225 230 235 240
362 Asn Cys His Asn Lys Ser Ala Ile Asp Leu Ala Pro Thr Pro Gln Leu
363 245 250 255
366 Lys Glu Arg Leu Ala Tyr Glu Phe Lys Gly His Ser Leu Leu Gln Ala

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/843,159A

DATE: 05/01/2002

TIME: 09:36:29

Input Set : A:\A68292-2.ST25.txt

Output Set: N:\CRF3\05012002\I843159A.raw

```

367          260          265          270
370 Ala Arg Glu Ala Asp Val Thr Arg Ile Lys Lys His Leu Ser Leu Glu
371          275          280          285
374 Met Val Asn Phe Lys His Pro Gln Thr His Glu Thr Ala Leu His Cys
375          290          295          300
378 Ala Ala Ala Ser Pro Tyr Pro Lys Arg Lys Gln Ile Cys Glu Leu Leu
379 305          310          315          320
382 Leu Arg Lys Gly Ala Asn Ile Asn Glu Lys Thr Lys Glu Phe Leu Thr
383          325          330          335
386 Pro Leu His Val Ala Ser Glu Lys Ala His Asn Asp Val Val Glu Val
387          340          345          350
390 Val Val Lys His Glu Ala Lys Val Asn Ala Leu Asp Asn Leu Gly Gln
391          355          360          365
394 Thr Ser Leu His Arg Ala Ala Tyr Cys Gly His Leu Gln Thr Cys Arg
395          370          375          380
398 Leu Leu Leu Ser Tyr Gly Cys Asp Pro Asn Ile Ile Ser Leu Gln Gly
399 385          390          395          400
402 Phe Thr Ala Leu Gln Met Gly Asn Glu Asn Val Gln Gln Leu Leu Gln
403          405          410          415
406 Glu Gly Ile Ser Leu Gly Asn Ser Glu Ala Asp Arg Gln Leu Leu Glu
407          420          425          430
410 Ala Ala Lys Ala Gly Asp Val Glu Thr Val Lys Lys Leu Cys Thr Val
411          435          440          445
414 Gln Ser Val Asn Cys Arg Asp Ile Glu Gly Arg Gln Ser Thr Pro Leu
415          450          455          460
418 His Phe Ala Ala Gly Tyr Asn Arg Val Ser Val Val Glu Tyr Leu Leu
419 465          470          475          480
422 Gln His Gly Ala Asp Val His Ala Lys Asp Lys Gly Gly Leu Val Pro
423          485          490          495
426 Leu His Asn Ala Cys Ser Tyr Gly His Tyr Glu Val Ala Glu Leu Leu
427          500          505          510
430 Val Lys His Gly Ala Val Val Asn Val Ala Asp Leu Trp Lys Phe Thr
431          515          520          525
434 Pro Leu His Glu Ala Ala Ala Lys Gly Lys Tyr Glu Ile Cys Lys Leu
435          530          535          540
438 Leu Leu Gln His Gly Ala Asp Pro Thr Lys Lys Asn Arg Asp Gly Asn
439 545          550          555          560
442 Thr Pro Leu Asp Leu Val Lys Asp Gly Asp Thr Asp Ile Gln Asp Leu
443          565          570          575
446 Leu Arg Gly Asp Ala Ala Leu Leu Asp Ala Ala Lys Lys Gly Cys Leu
447          580          585          590
450 Ala Arg Val Lys Lys Leu Ser Ser Pro Asp Asn Val Asn Cys Arg Asp
451          595          600          605
454 Thr Gln Gly Arg His Ser Thr Pro Leu His Leu Ala Ala Gly Tyr Asn
455          610          615          620
458 Asn Leu Glu Val Ala Glu Tyr Leu Leu Gln His Gly Ala Asp Val Asn
459 625          630          635          640
462 Ala Gln Asp Lys Gly Gly Leu Ile Pro Leu His Asn Ala Ala Ser Tyr
463          645          650          655

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/843,159A

DATE: 05/01/2002

TIME: 09:36:30

Input Set : A:\A68292-2.ST25.txt

Output Set: N:\CRF3\05012002\I843159A.raw